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ABSTRACT

The paper presents a summary overview of the major methods by which human environments have been assessed and characterized. Six general types of dimensions are identified: 1) Ecological Dimensions which include both geographical and meteorological and architectural and physical design variables; 2) behavior settings, which are the only units thus far proposed which are characterized by both ecological and behavioral properties; 3) dimensions of organizational structure; 4) dimensions identifying the collective, personal and/or behavioral characteristics of the milieu inhabitants; 5) dimensions related to psychosocial characteristics and organizational climates; and 6) variables relevant to the functional or reinforcement analyses of environments. The six categories of dimensions are non-exclusive, overlapping and mutually interrelated. Their common relevance is that each has been conceptualized and shown to have important effects on individual and group behavior. The overview presented is necessarily incomplete and sketchy but serves to illustrate the broad range of dimensions relevant to this area. Implications for a robust and socially relevant environmental psychology are considered. (Author)

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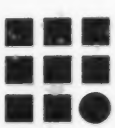

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SYSTEMS FOR THE ASSESSMENT AND CLASSIFICATION OF HUMAN ENVIRONMENTS: AN OVERVIEW[1]

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Abstract

The paper presents a summary overview of the major methods by which human environments have been assessed and characterized. Six general types of dimensions are identified: 1) Ecological dimensions which include both geographical and meteorological and architectural and physical design variables; 2) behavior settings, which are the only units thus far proposed which are characterized by both ecological and behavioral properties; 3) dimensions of organizational structure; 4) dimensions identifying the collective, personal and/or behavioral characteristics of the milieu inhabitants; 5) dimensions related to psychosocial characteristics and organizational climates; and 6) variables relevant to the functional or reinforcement analyses of environments. The six categories of dimensions are non-exclusive, overlapping and mutually interrelated. Their common relevance is that each has been conceptualized and shown to have important effects on individual and group behavior. The overview presented is necessarily incomplete and sketchy but serves to illustrate the broad range of dimensions relevant to this area. Implications for a robust and socially relevant environmental psychology are considered.

Introduction

There has been a good deal of recent interest in the development of methods for the systematic description and classification of environments. This interest has arisen in part because of dissatisfaction with trait conceptualizations of personality, in part because of the low correlations which have been obtained between measures of personality traits and various validity criteria, and in part because of rapidly growing evidence that substantial proportions of the variance in responses to questionnaires and in behavior may be accounted for by situational variables. The literature criticizing the empirical legacy of several decades of work with trait models of personality has been most cogently summarized by Mischel (1968). Recent studies indicate that relative proportions of variance accounted for by different sources of variance may vary importantly depending upon the particular sample of persons, settings and responses chosen for study. However, the variance accounted for by consistent differences among settings and by the interaction between setting characteristic and personal characteristics is generally as great or greater than the variance accounted for by consistent differences among persons (Endler and Hunt, 1968; Moos, 1969). In addition a number of studies have demonstrated that substantial differences may occur in the behavior of the same persons when they are in different settings or milieus (Barker and Gump, 1964).

Although most current personality theorists subscribe to the belief that behavior is a joint function of both the person and the environment, they have until recently emphasized and studied person variables while paying relatively less attention to environmental variables. Kurt Levin and Henry Murray have clearly been the most influential theorists, however there are as yet few theoretical approaches which fully conceptualize a broad range of environmental variables and systematically relate these to behavior.

This paper will present a brief overview of the different methodologies which have been used in this area. Basically there appear to be at least six different

categories of dimensions which have been utilized. First, there has been a search for objective, ecological variables along which environments may be classified. This area may be broken down into two categories. Initially, the greatest amount of research was concentrated in conceptualizing geographical and meteorological variables which were thought to have important effects on human behavior. A second category of ecological variables has to do with the physical design and architectural characteristics of the man-made environment. This area has been particularly popular recently. Second, Roger Barker and his associates have presented an extensive theory of behavior settings, which are conceptualized as having both ecological and behavioral properties. Thirdly, there are dimensions of organizational structure such as size, faculty-student ratio, span of control, etc. These are variables which have generally been used to characterize relatively objective and easily measurable dimensions of organizational functioning and their effects on individual and group behavior.

A fourth general method is to describe the average background characteristics of the individuals functioning in a particular environment. These average background characteristics (e.g. intelligence, mechanical ability, etc.) are then considered to be characteristics of the environment which affect the functioning of new individuals entering that environment. The fifth method which has been used to assess environmental dimensions relates to psychosocial characteristics and organizational climate. In this methodology either outside observers or individuals currently functioning in a particular institution are asked about variables broadly relevant to the organizational or social climate of that institution. This is a more subjective perceptual methodology, which has been extensively utilized, particularly recently.

Finally, an important relatively new methodology attempts to characterize situational variables by identifying the reinforcement contingencies which maintain particular behaviors. This might be called a functional analysis of specific situations or environments. Some pertinent work in each of these areas will be briefly

discussed in order to present an up-to-date "progress report," however no attempt will be made to systematically review the literature in each of these rather extensive areas.

Ecological Dimensions

Geographical and Meteorological Variables

The notion of environmental influence has been recurrent in many societies. This is essentially the idea that the culture, character and activities of societies are significantly shaped by the climate (temperature, rainfall), topography and other geographical features of the region in which they live. Environmental determinists believe that there are specific connections between environmental characteristics such as mountainous terrain, soil conditions, humidity, etc. and personality traits such as strength of character, assertiveness, bravery and laziness. For example one study (Barry et al. 1959) found an association between different types of substance economy and differential importance given to the development of certain character traits. Societies whose economies entailed the accumulation and care of food resources tended to stress the development of such personal traits as responsibility and obedience whereas hunting and fishing societies tended to emphasize achievement and self-reliance. This is a very complex area since intricate patterns of potential mediating factors must always be taken into account.

Two major controversies occur here. First, some theorists conceptualize man as the active agent with the environment being relatively passive. They believe that the molar physical environment simply presents a varied array of potentialities that may or may not be developed depending upon the choices men make. It would appear that, just as persons and situations both account for behavioral variance, both geographical characteristics and cultural predilections must be taken into account in understanding the development of cultural or national character. The second controversy centers around the strength of physical environmental influences relative to social environmental factors such as culture, social institutions and

technology. The assumption has generally been that social factors are most important in the determination of human behavior, however as Craik (1970), who has recently cogently reviewed this area, points out, the physical environment has received comparatively little systematic study.

A fair amount of work has been done on climatological and meteorological variables. Sometimes phenomena of great importance have been attributed to climate, e.g. the riots in Los Angeles and Chicago during the summer of 1965 were widely believed to stem in part from the discomforts of hot weather. It has been suggested that climate may be one of the major factors in economic development throughout the world, the optimum climate being the temperate climate within which most of the world's current industrial powers lie. Further, most people seem to feel that their efficiency is impaired by extremes of heat and cold, and one of the arguments in support of air-conditioning is that it improves worker efficiency. It is impossible to adequately cover the relevant literature, however, some examples may illustrate the importance of the area. Russett et al. (1964) reported a correlation of .62 between mean daily temperature and gross national product per capita across a sample of 67 nations. Wolfgang (1958) has reported that the peak months for the occurence of homicide are the hot summer months. Berke and Wilson (1951) have reviewed research on weather and behavior and point out that most major political uprisings, rebellions and revolutions begin during the hot months. Hot weather has also been associated with poor general health, poor intellectual performance, increased admissions to mental hospitals, and suicide and death rates.

Some of the other variables which have been implicated in the determination of behavior include extreme cold, barometric pressure, cyclonic and anticyclonic storm patterns, and oxygen, nitrogen, carbon dioxide and ozone concentrations in the atmosphere (e.g., Sells et al., 1966). Mills (1942) reports that statistics in Toyko show that people are more forgetful on days of low barometric pressure as indicated by a higher frequency of packages and umbrellas left on buses and street cars and

in other places. Industrial accidents maybe more frequent on such days. People apparently tend to make a greater frequency of errors on foggy depressing days. There is also some evidence of the relationship of the geomagnetic environment to behavior, e.g., suicides show a tendency to be associated with periods of high geomagnetic disturbance, the behavior of patients on psychiatric wards has been related to the level of cosmic radiation, and epidemic diseases appear to show distinct increases with periods of solar disturbance.

In summary, geographical and metorological variables have been relatively neglected even though the evidence indicates that they may be quite important in the determination of group and individual behavior. So far as this author is aware, no overall typology of relevant variables in this area has as yet been developed. Studies have generally taken specific variables such as temperature and have attempted to relate them to specific indices of behavior such as homicide rates, etc. Man is increasingly creating his own geographical and meteorological environment and important trends in this area are concerned with the possible relationship of man-made variables such as radiation and air pollution to mood changes, and to mental and physical symptoms. With the current resurgence of emphasis on ecology these types of studies will probably become much more frequent.

Architectural and Physical Design Variables

Behavior necessarily occurs in a specific physical context, which may impose major constraints on the range of possible behaviors and serve to determine particular aspects or patterns of individual action. A behavioral orientation has become more important recently in architecture, specifically in the desire of architects to understand better the human activities that the designed physical environment is supposed to accommodate. There is apparently a growing belief within the design profession that the man-made physical environment may profoundly influence psychological states and social behavior. In its extreme form this is known as "architectural determinism," but it is beginning to motivate further research which should

help to estimate the actual extent and magnitude of the social and psychological consequences of design decisions.

Craik (1970) has comprehensively reviewed this area (also see Proslansky et al., 1970; Kates and Wohlwill, 1966; Sommer, 1969). He presents a number of "environmental case studies" and also discusses the technique of "behavioral mapping" of designed environments. Behavioral maps can be arranged in a matrix showing the frequency of different types of activities in different types of available locations. Some work of this kind has been done on psychiatric wards which have been analyzed in terms of variables such as behavior density, (the frequency of all types of activities at a particular place), diffuseness, (the range of different activities occuring at a place), activity profile (the frequency of specific types of activities occuring at a place), etc.

One of the most interesting techniques developed to monitor the locational behavior of individuals is the hodometer (Bechtel, 1967) which consists of numbered electric switch mats each independently connected to an electric counter located in another room which records pressures of 4 pounds per square inch. The entire floor area of a room in the art museum of the University of Kansas is laid with these foot square registers which are covered with a concealing carpet. Thus the locational behavior of individuals in the room can be completely analyzed. Bechtel found, for example, that subjects who were aware that their exploratory behavior was being studied exhibited a more constricted pattern of locational behavior in terms of range and time spent in the room than did ordinary visitors whose locational behavior was recorded sereptitously.

Architectural and physical design variables are usually conceptualized as independent variables affecting behavior. One may state explicit behavior goals in the form of social or professional policy which it may be within the power of certain design schemes to realize. For example Osmond (1957) has coined the term sociofugal and sociopetal to describe spatial arrangements that discourage or

foster social interaction. Craik (1970) notes that the use of environmental design to achieve socially valued outcomes places it among the standard behavior modification techniques like psychotherapy, education and persuasion.

He also points out that ergonomics, human engineering, and human factors research may be considered precursors and contributors to environmental psychology. These fields have systematically studied the relation of selected environmental variables such as heating, lighting, noise level, ventilation and the lay-out and design of machines to behavioral measures of work efficiency and comfort. Other environmental variables studied include color, form, texture, spatial dimensions and environmental quality. The range of dependent behavioral measures include social interaction, interpersonal perception and exploratory behavior. For example, Maslow and Mintz (1956) demonstrated that interpersonal perceptions might be highly sensitive to variations in the physical environment. They found that judgements of psychological states (weary, zestful, irritated) based upon photographed faces differed in three physically different rooms.

This approach has yielded initial information about what goes on in psychiatric wards, nurseries, university dormitories, libraries, classrooms, public housing projects, etc. Most of the effort has concentrated on semipublic and public settings where unfamiliar observers are relatively unobtrusive.

However, there is as yet no adequate dimensionalization or typology of architectural and design variables. Vielhauer (1965) has developed an Environmental Description Scale which assesses perceptions of physical characteristics of rooms along dimensions such as physical organization, lighting, size, temperature-ventilation, etc. At a more global level Lansing et al., (1970) have characterized planned residential environments (e.g., Columbia, Md.; Reston, Va.) along dimensions such as dwelling unit density, accessibility of recreational facilities, percent of homes with sidewalks nearby, etc. It will be difficult to create an integrated topology for variables of this diversity, but this is what will be needed in order

to systematically study social problems such as physical environmental factors affecting residential choice and migration, the role of vacationing and tourism, the adaptional cost of urban noise and urban ghettos, etc.

Behavior Settings

The work of Roger Barker (1968) in ecological psychology at the Midwestern Psychological Field Station is important and unique. Barker and his associates have worked in this area for over twenty years and have developed the concept of the behavior setting, which they consider to be the essential element in studies of the ecological environment. Behavioral ecology is conceptualized as being concerned with molar behavior and the ecological context in which it occurs. Barker has carefully analyzed and categorized all of the behavior settings of a small midwestern community. He points out that these behavior settings e.g. drugstore, garage, junior high school play, basketball game, etc.) are natural phenomena, i.e., they are not created by an experimenter for scientific purposes. They have a space time locus which is self-generated. They are a preperceptual ecological entity. They have two sets of components which are: a) behavior, e.g., reciting, discussing, sitting, and b) nonpsychological objects with which behavior is transacted, e.g., chairs, walls, a blackboard, paper, etc. The important characteristics of behavior settings is that they are stable extra-individual units which have great coercive power over the behavior that occurs within them.

Barker has presented in detail a methodology by which to identify and categorize behavior settings. The most important aspect of this work is that behavior settings can be shown to have pervasive effects on individuals, not only in terms of the specific behavior which is "demanded" by the setting (e.g. reading and writing in classrooms) but also on both other behaviors and on affects experienced by individuals. Barker and Gump (1964) have done an extremely intriguing analysis of the different demands of undermanned and optimally manned behavior settings, and have shown that these produce characteristic differences in the strength, direction, origin and

termination of forces that impinge upon their inhabitants. In comparison with the inhabitants of optimally manned behavior settings the inhabitants of under manned settings 1) engage in more and more varied program actions, 2) engage in more varied, stronger and more deviating-countering maintenance actions, 3) have less sensitivity to and are less evaluative of individual differences in behavior, 4) see themselves as having greater functional importance within the setting, 5) have more responsibility and greater functional identity. For example, students in small schools with relatively few associates within behavior settings, in comparison with students of larger schools with relatively many associates, report twice as many pressures on them to take part in the programs of the settings, actually perform in more than twice as many responsible positions in the settings and report having more satisfactions related to the development of competence, to being challenged, to engaging in important actions, to being involved in group activities, to being valued, to gaining moral and cultural values, etc. Some of these findings have been replicated in large and small churches (Wicker, 1969).

Thus behavior settings are conceptualized as ecological units which have both an environmental and a behavioral component and which Barker believes are the essential elements or units of study of ecological psychology. It has been shown that these units have considerable importance in the determination of individual behavior and experience. Unfortunately, there has still been relatively little work utilizing this methodology aside from that of Barker and his students. Behavior setting analyses can and should be done in a large variety of different types of institutions, e.g., mental hospitals, correctional institutions, universities, urban ghettos, etc. The range and variety of behavior settings in central city, suburban and rural areas must be very different, and from Baker's results it would be expected that this would have extremely important effects on the behavior of their adult inhabitants. Even more importantly they probably have quite pervasive effects on the developing behavior, self esteem, and competences of the children growing up within them.

While the behavior setting is probably the best conceptualized and studied basic unit in this entire area, a systematic typology of behavior settings has yet to be developed.

Dimensions of Organizational Structure

Many investigators have attempted to assess and discriminate among organizations utilizing relatively objective dimensions such as size, staffing ratios, average salary levels, organizational control structure, etc. Much of this work is reviewed in March (1965). A typical example is work on the properties of organization structure in relation to job attitudes and job behavior (Porter and Lawler, 1965). Organizations vary widely in their structural characteristics and thus an important question is whether differences in organizational structures are related to different behavioral and attitudinal indices of the organization members. Porter and Lawler define structure to mean the positions and parts of organizations and their systematic and relatively enduring relationships to each other. Within this broad definition they identify seven dimensions of organizational structure: 1) size of the overall organization, 2) tall or flat organizational shape, which is generally identified on the basis of the number of levels in the organization relative to the total size of the organization, i.e., the degree to which a structure is tall or flat is determined by the average span of control within the organization, 3) centralized or decentralized shape. Sub-organizational properties include 4) number of organizational levels, 5) line and staff hierarchies, 6) span of control, which is defined as the number of subordinates a manager is responsible for supervising, and 7) size of organizational subunits. Porter and Lawler concluded that at least five of these seven organizational structure variables have been found to be significantly related to one or more attitude or behavior variables. Indices of need satisfaction were more strongly correlated with structural properties than indices of need importance. On the behavioral side absenteeism and turnover seemed more clearly related to structural factors than did employee productivity. In general the impact of structural variables was

clearer on attitudes than on behavioral variables. Porter and Lawler point out that much more attention needs to be given to the inter-relationships between and among different dimesions of organizational structure. Organizations are probably too complex for any given variable to have a consistent effect across a wide variety of conditions. Recent articles which review various aspects of this work, most of it concentrating on industrial and business organizations include Pugh (1966), Roberts (1970) and Lichtman and Hunt (1971).

There has also been a good deal of similar work done on colleges and universities. For example, Astin (1968b) used relatively objective indices differentiating among universities and attempted to relate them to undergraduate achievement. The types of institutional quality dimensions he utilized include: 1) selectivity (an estimate of the average academic ability of the entering studer), 2) per-student expenditures for educational and general purposes, 3) number of books in the library per student, 4) faculty/student ratio, 5) percentage of faculty with Ph.D. degree, 6) type of control, i.e. public, religious, private nonsectarian, 7) type if institution, i.e., university, liberal arts, teachers, mens, womens, 8) total undergraduate enrollment and 9) percentage of men in the student body. Astin concluded that these traditional indices of institutional quality did not appear to contribute to student achievement.

In earlier work Astin (1962) studied a sample of 335 institutions and found six principle dimensions along which institutions differed which he identified as: affluence (wealth), size, private verses public, masculinity verses femininity, realistic (technical) emphasis and homogeneity. Affluence accounted for the largest porportion of variance and had high loadings from measures of the college financial resources, student quality, faculty quality, etc. Extensive efforts have been made to link these dimensions to important outcome variables such as differential Ph.D. productivity of different educational institutions.

In work outside of industrial and educational institutions the three most

well investigated dimensions are size, turn-over rate and population density (crowding). The literature on the effects of size is quite vast however a brief review may be found in Barker and Gump (1964). Turnover rate is an important ecological variable which partially identifies the degree of stability of the environment. There is very little systematic knowledge about the effects of differential turnover rates in different institutions although some studies are in progress (e.g., Kelly, 1970). Most of the important work on population density has been done in animal studies, but the potential applications to human environments seem clear. Increased population density and crowding in animals has been shown to be related to reproduction, aggressive behavior, drug toxicity, adrenomedollary function, adrenocortical function, blood pressure, brain amines and immune responses. Attempts have been made to conceptualize crowding effects in human environments such as urban ghettos (Duhl, 1963) and cities (Milgram, 1970).

Thus a fairly large number of important structural dimensions have been identified and related to different indices of behavior, however again there are no overall typologies except possibly for those developed using factor analytic techniques on data from certain types of institutions

Personal and Behavioral Characteristics of the Milieu Inhabitants

Various factors related to the characteristics of the individuals inhabiting a particular environment, e.g., average age, ability level, socio-economic background, educational attainment, etc. may be considered to be situational variables in that they partially define relevant characteristics of the environment (e.g., Sells, 1963). This general idea is based on the suggestion made by Linton (1945) that most of the social and cultural environment is transmitted through other people. This idea implies that the character of an environment is dependent on the nature of its members and that the dominant features of an environment are dependent upon the typical characteristics of its members. If we know what kind of people make up a group then we can infer the climate that group creates.

Sells has presented a detailed list of the types of variables which might be included in this area, e.g., 1) background characteristics such as age, sex, socio-economic status and skill characteristics such as abilities, experiences and prior training; 2) external reference characteristics such as biologically defined factors related to height, weight, physique, race, physical abnormalities or injuries; 3) factors defined by geographic position and/or socio-economic status such as rural or urban residences, income, occupational classification, amount of savings, number of dependents, education; 4) family and primary or marriage group factors such as legal status, status in family, number of children, and finally, 5) group memberships including the number of group memberships, types of groups, social status of groups, etc. This partial list indicates that vast number of variables which need to be considered.

In terms of more specific examples, this logic is represented by the Environmental Assessment Technique (EAT) which is based on the assumption that the college environment depends on the personal characteristics of the students, faculty, administration and staff of the institution (Astin and Holland, 1961). Since the undergraduates personal contacts are chiefly with fellow students, the EAT assumed that the major portion of the student's environment was determined by the characteristics of his fellow students. Accordingly the environment was defined in terms of eight different characteristics of the student body: average intelligence, size (this is probably most properly considered an organizational structure dimension), and six personal orientations based on the proportions of students in six broad areas of study. These six areas are: 1) realistic (e.g., agriculture, physical education, engineering), 2) intellectual (e.g. architecture, mathematics, philosophy), 3) social (e.g., education, nursing, physical therapy), 4) conventional (e.g., accounting, library science, economics), 5) enterprising (e.g., political sicence, foreign service, industrial relations), 6) artistic (e.g. music, English, fine arts).

The logic is that by identifying the type to which any vocation belongs it is

possible to use a persons' vocational choice as a miniature personality "test". For example, if a persons' choice is engineering which falls in the realistic class he would be expected to possess some of the characteristics of the model realistic orientation: masculine, physically strong, unsociable, aggressive, etc. As a further step from this theory it is assumed that a given social environment can to some degree be described in terms of the occupations (personalities) of its members. For example, the environmentor climate of a law firm should differ from that of an engineering firm at least to the extent that engineers and lawyers are different kinds of people. When this notion is extended to colleges it is then possible to characterize the college environment in terms of the major fields (occupations) of the students.

Holland (1966) assumes that vocational satisfaction, stability and achievement depend on the congruence between one's personality and the environment (composed largely of other people) in which one works. He points out that the Strong Vocational Interest Blank (SVIB) and other generally accepted vocational inventories are based in part on this assumption also. To the extent that these inventories identify vocational preferences on the basis of the similarity between the current interests of the individual and the average interests of individuals already in a particular vocation, they are characterizing vocational environments in terms of the logic reviewed here. Holland proposes six model environments to characterize the common physical and social environments in our culture. He assumes that real environments may be assessed by comparing them with model environments. Both the environmental models and his personality types are derived from the same six concepts and thus the six model environments are: realistic, intellectual, social, conventional, enterprising and artistic. Thus it is possible to classify people and environments in the same terms and to predict the outcome of paring people and environments.

One of the most intriguing aspects of Holland's theoretical model is that he characterizes individuals and environments in commensurate dimensions, thus making it possible to assess the degree of person-environment congruence and its effects.

Astin (1968a) has recently developed a new technique for defining environmental stimuli in colleges and universities: the Inventory of College Activities (ICA). Astin defines the college environment as including any characteristic of the college that constitutes a potential stimulus for the student, i.e., that is capable of changing the student's sensory input. He points out that these changes in sensory input may have one or more of several different consequences, e.g., a change in the student's immediate subjective experience, a temporary change in the student's overt behavior, a relatively permanent change in the student's experience or behavior.

For illustration he assumes that a new student enrolls in an institution with high academic standards in which the following environmental stimuli occur relatively frequently: classrcom examinations, discussions among students about grades, studying, intellectual arguments among students, and debates between faculty and students. The new student would be exposed to these and related stimuli and might thus feel anxiety about possible academic failure (a change in immediate subjective experience), increased fear of or hostility towards fellow students, increased feelings of competitiveness, and/or feelings of inferiority. Presumably, the student would be affected differently if he attended a different college. In terms of short-term behavioral effects, the student may increase the time he devotes to study, reduce the time he devotes to social activities, and perhaps increase his intellectual aggression. He may consequently experience greater feelings of loneliness and isolation. Finally, there may be longer lasting alterations in the students self-concept and/or relatively permanent changes in behavior which may persist beyond college, e.g. devoting a great deal of time to the job or competing constantly with others. Astin assumes that by focusing on observable stimuli it is possible to identify some of the specific environmental variables that affect student development.

The ICA attempts to cover four broad categories of stimuli: the peer environment, the classroom environment, the administrative environment, and the physical environment. Examples of the kinds of items in the ICA include: 1) questions about

activities in college such as whether or not the individual flunked a course, became pinned or engaged, got married, participated in a student demonstration, changed his or her major field, etc. 2) the median number of hours per week the student spent in different activities such as attending class, studying for school assignments, reading for pleasure, watching TV, watching athletic events, sleeping, playing games, etc., 3) the kinds of organizations in which the student was a member such as fraternities or sororities, college athletic teams, marching band, religious club, service organization, etc.

Astin gave the ICA to students at each of 246 institutions, obtained the mean score for each item for each institution and then factor analyzed the results separately for each of the four different sections of the scale. Fifteen relatively independent patterns of student behavior were identified, e.g., competiveness verses cooperativeness, organized dating, leisure time, regularity of sleeping habits, conflict with regulation, etc. There was a remarkable diversity among the 246 institutions in the frequencies of occurrence of many of the stimuli. Thus the proportion of students who engaged in any particular activity (e.g., dating, going to church, drinking beer, voting in a student election) often varied from no students in some institutions to nearly all students in others. Astin feels that this considerable diversity indicates that the peer environment has great potential for influencing the experience and behavior of the individual student. In analyses of the rest of the CIA Astin found six identifible factors characterizing the classroom environment, but only two factors characterizing the physical environment. The administrative environment was identified by student perceptions of administrative policies and thus this part of the ICA is conceptually more closely related to work which will be reviewed in the next section. The important point is that Astin has developed a somewhat different method for characterizing college environments. By utilizing this method he has identified salient dimensions which show very large differences among college environments. The method should be easily adaptable to identifying

differences in relevant stimulus environments of other types of institutions. One part of the Questionnaire on Student and College Characteristics (QSCC) also utilizes this logic (Centra, 1968).

In summary, this area appears to show promise in that several techniques capable of differentiating among environments and of characterizing persons and environments in commensurate dimensions have been developed. Also there are at least two promising typologies, one based mainly on factor-analytic dimensions (Astin's) and one which was mainly rationally derived (Holland's).

Psychosocial Characteristics and Organizational Climate

This section will deal with dimensions which have been proposed for the systematic analysis and description of the psychosocial characteristics of different types of environments. Until recently most of the work in this area involved rather detailed naturalistic descriptions of the functioning of different types of institutions such as psychiatric wards and colleges and universities. This type of work was valuable in that it indicated the importance of the immediate psychosocial environment in the determination of behavior and in that it suggested various types of dimensions along which psychosocial environments might be compared.

The newer organization theorists have also discussed various analyses of organization which specifically imply certain dimensions along which these organizations might be compared. For example, Katz and Kahn (1966) present certain defining characteristics of social organizations: 1) maintenance, production and production-supportive structures, 2) elaborate formal role patterns, 3) authority structure reflecting the way in which the control and managerial functions are exercised, 4) regulatory mechanisms and adaptive structures which include feedback to the institution concerning its own operation and the changing character of its environment, 5) explicit formulation of an ideology which provides system norms and which supports the authority structure. Some of the dimensions inherent in this type of analysis may be catagorized as objective organizational structure dimensions, however others

appear to be more psychosocial or "event-structure" dimensions. For example, Katz and Kahn present three criteria for a system of group norms and values: 1) there must be beliefs about appropriate and required behavior for group members, 2) there must be objective or statistical commonality of such beliefs, i.e., not every member of the group must hold the same idea but a majority of active members should be in agreement, and 3) there must be an awareness by individuals that there is group support for a given belief. Analysis of an organization must take into account the actual amount of support in the social environment for any given system of beliefs.

A number of perceived climate scales have been developed in the last few years in order to attempt to more systematically measure the general norms, value orientations and other psychosocial characteristics of different types of institutions. This appears to be a fairly promising area in which important dimensions which may account for behavioral variance may be identified. The most extensive work to date has been done in educational institutions, particularly colleges and universities.

Stern has cogently argued that since the psychological significance of both the person and the environment can only be inferred from the same source, i.e., behavior, a common taxonomy must be employed for both. Stern follows the Murray (1938) need-press theory and states that the "concept of environmental press provides an external situational counterpart to the internalized personality needs" (Stern, 1970). He points out that descriptions of institutional press are based on inferred continuity and consistency in otherwise discreet events. If students in a university are assigned seats in classrooms, if attendance records are kept, if faculty see students outside of class only by appointment, if there is a prescribed form for all term papers, if neatness counts, etc. then it is probable that the press at this school emphasizes the development of orderly responses on the part of the students. It is these conditions which establish the climate or atmosphere of an institution. Stern then defines press as "a taxonomic classification of characteristic behaviors manifested by aggregates of individuals in their mutual, interpersonal transactions".

Stern divides press into two basic catagories: 1) anabolic press which are represented in those stimuli which are potentially conducive to self-enhancing growth, e.g., press conducive to the development of cognitive mastery, 2) catabolic press, which includes stimuli that are antithetical to personal development or are likely to produce countervailing responses, e.g., press involving psychological constraints. Examples of developmental press include intellectual climate, personal dignity, closeness and achievement standards, whereas examples of control or catabolic press include orderliness and impluse control. Stern's results indicate that these types of basic dimensions may be found across a variety of different institutional envrionments and thus that they are probably central to the development of a taxonomic scheme.

The other major scale utilized in this area is the College and University Environment Scale (CUES) which assesses five different dimensions of college environments (Pace, 1969). These five dimensions are: 1) Scholarship, which measures the emphasis on competitively high academic achievement and interest in scholarship, 2) Awareness, which measures the concern for self-understanding and identity, a wide range of asthetic opportunities and appreciations and a sense of personal involvement in the world's problems and the conditions of man, 3) Community, which measures the cohesiveness, supportiveness and sympathy of the environment as well as the feeling of group welfare and group loyalty, 4) Propriety, which indicates the emphasis on decorum, politeness, consideration, thoughtfulness and caution, and 5) Practicality, which emphasizes the concrete and realistic more than the speculative or abstract and defines an environment in which personal status and benefits are important. The CUES has been very extensively utilized.

A recent new technique has also been developed for universities. This is the Institutional Functioning Inventory (IFI) which is most appropriate for faculty and administrators, although students may answer some of the items. The IFI affords the opportunity for study of sources of disparate beliefs about the work of the college

and is considered to be for the purpose of institutional self-study, carried out on behalf of institutional reform (Peterson et al., 1970). Most relevant for present purposes is the fact that the IFI yields scores on 11 different scales which must be considered to be representative of basic dimensions differentiating among colleges and universities. Examples of these dimensions include: 1) Freedom, which has to do with academic freedom for faculty and students as well as freedom in their personal lives for all individuals in the campus community; 2) Human Diversity, which has to do with the degree to which the faculty and student body are heterogenous in their backgrounds and present attitudes; 3) Concern for Undergraduate Learning; 4) Concern for Innovation, which refers to an institutionalized commitment to experimentation with new ideas for educational practice; 5) Institutional Spirit, which refers to a sense of shared purposes and high morale among faculty and administrators.

The other major organizational climate scales have identified somewhat different though probably relate dimensions. For example, Halpin and Croft's (1963) Organizational Climate Description Questionnaire (OCDQ), which was initially developed to assess the climate of elementary schools, assesses basic dimensions of both teacher and principal behavior. Some of the dimensions included are: 1) Disengagement, which indicates that the teachers do not work well together and gripe and bicker among themselves; 2) Hindrance, which refers to the teachers feelings that the principal burdens them with routine duties, committee demands and other busy work requirements; 3) Intimacy, which refers to the teachers enjoyment of friendly social relations with each other; 4) Production Emphasis, which refers to behavior by the principal which is characterized by being highly directive and task-oriented. Haplin and Croft defined a typology of organizational climates from these basic dimensions. They identified six climates and some of the logic underlying this typology appears to be similar to Stern's notion of anabolic and catabolic press. For example, Halpin and Croft identified an open climate which describes an energentic, lively organization moving toward its goals and providing satisfaction for the group member's social

needs. On the other hand, they identified a closed climate characterized by a high degree of apathy and low spirit and morale. Other types of climates include the autonomous climate, the controlled climate, the familiar climate and the paternal climate. There is a vast amount of literature which has attempted to relate the eight basic subscales and/or the typology of organizational climates to a wide variety of "dependent" or associated variables with somewhat mixed results.

Another example of this type of logic is the Learning Environment Inventory (LEI) which has been developed by Walberg (1969). This Inventory measures the basic perceived climate dimensions differentiating among high school classrooms. Again the labels of most of the dimensions are somewhat different from the labels utilized in other perceived climate scales although it would seem that the concepts are related. For example, some of the scale titles in the LEI are Friction, Class Intimacy, Social Heterogeneity, Goal Diversity, Status, Satisfaction, Disorganization and Formality. The dimensions of the LEI have also been related to a number of other characteristics of the classroom, most notably differential achievement.

Moos and his associates (e.g., Moos, 1968; Moos, 1972b; Moos and Houts, 1968) have also done a good deal of work in the development of scales which assess the perceived climates of different social organizations. They have studied seven different types of environments relatively extensively and have developed perceived climate scales for each of these environments: 1) psychiatric wards; 2) community-oriented psychiatric treatment programs such as halfway houses, day hospitals, community care homes; 3) correctional institutions, particularly those for juvenile offenders; 4) military basic training companies; 5) university student residences such as dormitories, fraternities and sororities; 6) junior high and high school classrooms, and 7) primary work group environments. An important aspect of this work is that conceptually similar dimensions appear to be relevant to this wide variety of different envrionments. These dimensions have been named somewhat differently, but appear to be conceptually similar to dimensions which have been found by other investigators.

Moos conceptualizes three basic types of dimensions which characterize and discriminate among different sub-units in each of the seven environments. 1) Relationship dimensions assess the extent to which individuals are involved in the environment and the extent to which they tend to support and help each other. Variables in this category essentially assess the types and intensities of personal relationships which exist among the inhabitants of a specific social environment. Examples of relevant subscales are Involvement, Affiliation, Peer Cohesion, Staff Support and Expressiveness.

2) Personal Development dimensions assess the opportunity in the environment for self-enhancement and for the development of self-esteem. The exact nature of the personal development dimensions appears to vary somewhat among the seven environments studied, depending upon their raison d'etre. For example, on psychiatric wards, in community-oriented psychiatric programs and in correctional institutions these dimensions assess variables which are relevant to the types of treatment programs which have been developed, e.g., Autonomy, (the extent to which people are encouraged to be self-sufficient and independent); Practical Orientation (the extent to which the program orients an individual toward training for new jobs, looking to the future, setting and working toward concrete goals); and Personal Problem Orientation (the extent to which individuals are encouraged to be concerned with their feelings and problems and to seek to understand them). An Autonomy or Independence dimension was also identified in military companies, university residences and work environments. On the other hand, as might be expected, both university residences (e.g., competition, academic achievement, intellectuality) and high school classrooms (e.g., task-orientation, competition) include other dimensions which belong in the personal development category.

3) System Maintence and System Change dimensions tend to be relatively similar across the seven environments studies. The basic dimensions are Order and Organization, Clarity and Control. An additional dimension which shows up in educational and industrial environments is labeled Innovation. University residence halls have

still another separate dimension related to system change which is labeled Student Influence. There is some initial evidence that these dimensions are related to important criteria such as morale and treatment outcome (e.g., Moos and Schwartz, 1972) and that they may be relevant for cross-cultural comparisons (Moos, 1972a).

In summary techniques by which to assess the psychosocial and organizational climate characteristics of institutions have been relatively popular and appear to be potentially important in the identification of salient environmental dimensions. There is no inherent reason why information relevant to the identified dimensions could not be obtained by outside observers rather than by the perceptions of the participants in the system, although this has generally not been done. Suffice it to say that there are a whole host of psychometric and other problems in the development of these techniques, however their specific relevance here is that they do identify important dimensions which appear to have specific demonstrable effects on individual and group behavior. They appear to be highly relevant to the measurement of personality-environment congruence and to effecting environmental change. These techniques may also provide a way of assessing the kinds of behaviors which are most likely to be rewarded in a specific social system. Thus if the emphasis on autonomy and independence is high, then individuals will more likely be rewarded for taking concrete initiatives in this area. On the other hand, if the emphasis on this dimension is low then individuals will either receive no rewards or possible negative reinforcement if they attempt to show independent autonomous behavior. Most importantly, the striking similarity of both the specific dimensions and their categorizations across both different investigators and different organizational environments indicates that one or more widely useful typologies may soon emerge.

Functional or Reinforcement Analyses of Environments

In this last section, a somewhat different though conceptually related method of environmental analysis is presented. The methodology of functional analyses of environments is essentially an outgrowth of a social learning perspective. The analysis

presented here closely follows that of Mischel (1968) and of Bandura (1969). Basically, the social learning theorist takes it as a given that people vary their behavior extensively in different social and physical environments. Mischel's excellent review of the literature on the empirical generality of trait dispositions appears to corroborate this. In this view people vary their behavior substantially from one setting to another mainly because the reinforcement consequences for particular behaviors vary extensively. A behavioral or verbal act which is positively reinforced in one setting may be negatively reinforced in another. People learn what to do in different settings through usual learning processes, i.e., classical conditioning, instrumental conditioning or trial and error learning, and observational learning or modeling.

Thus, the social learning theorist attempts to analyze and identify those stimuli and stimulus changes which produce and maintain behavior and behavior change. People are expected to behave similarly in different settings to the extent that those settings are alike (or perhaps are perceived to be alike) in their potential reinforcing properties. For example, if aggressive behavior is rewarded in school but punished at home then it is likely that a child will be aggressive in school but not at home.

Social learning theorists attempt to identify the exact controlling stimulus conditions for particular behaviors, e.g., the specific models involved, the substantive reinforcers, and the precise discriminative stimuli. A social behavior assessment is thus highly idiographic. The assessment complexity of this analysis may be illustrated by the fact that essentially any stimulus or stimulus change may be a reinforcer. In addition the patterning or sequencing of reinforcements is also important as are internal cues which may be utilized for self-reinforcement. Relatively little is known about what the most important discriminative stimuli are for the maintenance of specific behaviors in different types of social settings.

Techniques for the assessment and identification of reinforcing stimuli have mainly included actual observations by independent observers and subject observations, for example, by preference ratings for different types of reinforcement (praise and social

approval, money, information, etc.). Kanfer and Saslow (1965) have presented a detailed interview guide and Wolpe and Lazarus (1966) have asked clients to keep detailed daily records of the exact conditions related to their specific anxieties. Also different investigators have constructed Fear Survey Schedules by which individuals can note the exact conditions under which they show different types of anxieties. The recent construction of actuarial stimulus hierarchies for deconditioning phobias indicate there may be some intersubject consistency in the important eliciting conditions.

In this connection, Rotter (1954) has suggested classifying situations in terms of the major types of reinforcements which are likely to occur in them. For example, Rotter would identify affiliative situations, academic status situations, etc. In a related approach Endler and Hunt (1968) have developed Stimulus Response Inventories of hostility and anxiety in which people, modes of response (e.g., distress, disruption, etc.) and different categories of situations are systematically sampled. In their anxiety questionnaire they identified, via factor analysis, two contrasting situational factors which they identified as a) situations in which interpersonal status was threatened and b) situations in which there was a threat of personal danger from inanimate sources. The main relevance of their method is that specific situations are identified (e.g., "You are talking to someone and he or she does not answer", "Someone persistently contradicts you when you know you are right", "Someone pushes ahead of you in a theater ticket line") and responses are sampled in each situation. By this methodology situations can then be categorized in terms of the similarity of reactions which they elicit.

Similar types of analyses are inherent in the work of Raush et al., (1959) in which food versus nonfood, structured game versus unstructured group activity, and structured game versus arts and crafts settings were compared, and in the work of Moos (1970) in which it was found that consistency of patient reactions across psychiatric ward sub-settings depended in part on the similarity of the setting.

Magnusson et al., (1969) has similarly varied specific situations in terms of the composition of the group and the nature of the group task. These and other similar approaches indicate that different social settings may be fruitfully categorized and that this categorization is related to behavior variation and thus by inference to the types of reinforcements which are likely to occur in them. Though relatively little systematic work of this type has as yet been done it would seem to be the next logical approach. Mischel has pointed out that it would be possible to do an "incentive analysis" of different settings in terms of the relative strengths of varying types of reinforcing incentives. Fruitful interactions between experiments and naturalistic observations may be identified in that well-controlled experiments may provide information about the stimulus conditions which are likely to be particularly important in the determination of specific behaviors. Then observational and other techniques relevant to more naturalistic settings might be developed in order to identify and assess these stimulus conditions in varying social settings.

An excellent example of the development of highly relevant categories from naturalistic observations of the stream of behavior is given in the work of Schoggen (1963). He conceptualized the environment to be active and directed with respect to the developing child and identified Environmental Force Units (EFU) which were defined as an action by an environmental agent which occured vis-a-vis the child and which was directed toward a recognizable end state with respect to the child. His results indicated that EFU occurred at a very frequent rate, that mothers were more frequent sources of EFU than fathers, and that there were wide individual variations between children in the percent of EFU initiated with the child and by agents in interaction with the child. Schoggen also identified conflict EFU which were any EFU in which the agent's goal for the child was different than the child's own goal. Conflict EFU are attempts by other people to change the specific direction of a child's behavior. Different behavior settings have quite different types and amounts of EFU, presumably indicating that individual behavior is being differentially shaped in them. Since

EFU identify the directions in which behavior is to be shaped, and also indicate the types of behaviors which are likely to be positively and negatively reinforced, this analysis is essentially a functional analysis of settings.

A particularly intriguing type of approach which has been developed in this area also deserves mention. Some investigators have attempted to identify aspects of a total environment which are thought likely to be related to the development of selected specific characteristics. For example, Wolf (1964) listed the conditions and processes in the environment that were likely to influence the development of general intelligence and/or academic achievement. The types of environmental variables which were identified included: the climate created for achievement, motivation, the opportunities for verbal development, the nature and amount of assistance provided in overcoming academic difficulties, the activity level of the significant individuals in the environment, the level of intellectuality in the environment and the kinds of work habits expected of the individual. Wolf developed a technique for assessing these variables and found that the relationship between the total rating for the degree of intellectual "press" of the environment and measured general intelligence was .69. He argues that research on the measurement of environments should be directed toward the identification of on-going environmental processes in relation to specific characteristics of interest. He states that environments for the development and maintenance of such characteristics as dependency, aggression, and dogmatism could be delineated, measured, and systematically related to measures of that particular characteristic.

It may also be possible to identify the types of reinforcements which are likely to occur in somewhat larger setting units such as re-education and behavior change programs, e.g., various available social models and their behaviors (including the behaviors they typically reward and punish) could be systematically analyzed. Mischel points out that different social institutions may have fixed rule systems or expectations according to which fairly consistant outcomes are likely to occur for specific types of behaviors. In this sense measures of perceived climate may be conceptualized

as attempting to identify the basic probable reward structure of the environment. For example, in one psychiatric program (Fairweather, 1963) the basic social system structure rewarded attempts at autonomy, order and organization, and practical orientation. In other studies it has been shown that psychiatric programs vary widely in their organizational characteristics and that these variations may be related to the types of behaviors which tend to be rewarded within them (Cohen and Filipczak, 1971). As Stern has indicated the concept of press includes conditions that facilitate or inhibit need expression. Press are inferred from the characteristic pressures, rewards, and conformity-demanding influences of the specific social system. The major problem with this type of analysis is that each individual has, to some extent, a specific sub-environment which is unique to him. Thus techniques which assess general dimensions differentiating among social environments will of necessity exclude some important unique reinforcing stimuli.

This type of functional analysis of environments has important implications. Behavior variability is treated as a given rather than as something which needs special explanation. Discriminative stimuli may be assessed both by subject perceptions as well as by more objective independent observations. The analysis is relevant to the prediction of behavior in the sense that one can attempt to discover whether environmental maintaining conditions for specific behaviors tends to change markedly. Also the assumption is that behavior change can occur quite readily when there is environmental change. Generalization of behavior change should occur to the extent to which there is generalization of reinforcement which induces the behavior change.

Other important problems may also be analyzed utilizing this theoretical orientation. For example, the relation between attitudes and behavior should depend on the similarity of the maintaining conditions and probable consequences for expressing a particular attitude and then actually carrying it out behaviorally. Factors affecting test performance may also be similarly studied, i.e., an analysis of the probable consequences of answering a particular questionnaire in a particular manner. Most

importantly commonalities among stimulus conditions that evoke similar behaviors may be identified and the evidence tends to indicate that there may be substantial predictive increments based on specific knowledge about environmental conditions. On the other hand, there is still no accepted typology of variables in this area. Since any stimulus, including an internal stimulus, may have reinforcement and/or discriminative value the resulting bewildering array of potentially relevant variables must of necessity eventually be cast into some relevant typologies. This will be a complex task, since the "value" of any stimulus of course depends in part on the specific social context in which it is embedded.

Overview and Relevance to Professional Psychology

This brief overview of a broad, growing and exciting area amply illustrates that there are many different assessment techniques, types of variables, and potential environmental typologies. The area is in its empirical infancy and it is still quite unclear how the different current conceptualizations will eventually relate to each other. In the broadest perspective environmental and stimulus variables may be conceptualized as reducing and shaping the potential variability in human behavior. In this sense, each of the types of dimensions mentioned in this overview are related. The geographical and meteorological environment to some extent shapes the environment of architecture and physical design, which in turn has specific and demonstrable effects on the types of available behavior settings. In their turn behavior settings constrain the potential range of organizational structure, methods of institutional functioning, and certainly the personal and behavioral characteristics of individuals who choose to inhabit the behavior settings. In turn, different behavior settings, organizational structures, and sets of milieu inhabitants tend to give rise to different psychosocial characteristics and organizational climates. Finally, any of the above types of variables may to some extent affect the types of reinforcements which are likely to occur in a specific setting. Most importantly, decisions about specific reinforcements which are valued may then, in a feedback loop, have

effects on the resulting geographical and architectural environment. Thus any of these levels of environmental variables may be influenced by any other level although the relationships between some levels (e.g., personal characteristics of milieu inhabitants and organizational climates) may be closer than that between others (e.g., geographical and meteorological variables and organizational structure).

The categorization of environmental dimensions into six broad types may or may not have general utility. The categories are overlapping and certain variables could as easily have been placed into one category as another. On the other hand, the conceptualization may help to identify some initial directions for an overall organization of this field.

Even though it is not yet clear how these different levels of environmental description will eventually relate to each other, it is clear that they are all directly relevant to the central tasks of professional psychology. Psychologists and behavioral scientists are being asked to help design physical and social systems which will maximize the probabilities of human growth and which will facilitate effective functioning and excellence. We need information about the common task requirements for effective functioning in different milieus. We know that different environments may facilitate different preparatory activities for coping in new environments, and thus that different cultural and social groups obtain differential preparation for environmental transitions. We need to identify the behaviors related to survival, learning and adaptation in different social systems. We need to identify environmental factors related to the ability to withstand stress effectively. We know that disorders of human functioning are at least partially rooted in social systems, and thus research toward effective modification of institutions to promote constructive handling of live stresses must have high priority. Bergin (1966) has suggested that we actively study the naturally occuring therapeutic conditions in society. Anastasi (1967) has added the important point that environments must not be ordered along a simple favorable, unfavorable continuum; since for example, an

environment favorable for the development of independence and self-reliance may differ significantly from one favorable for the development of social conformity or abstract thinking. We cannot obtain definitive information on any of these areas without learning more about the dimensions of social and physical environments and about the different types of initiatives, adaptive behaviors and preparatory and coping mechanisms likely to be successful in each.

Further conceptualization and knowledge about environmental dimensions is essential for the central task of professional psychology which is to understand, predict and change behavior. The optimal arrangement of environments is probably the most powerful behavior modification technique which we currently have available. To that extent psychologists and other behavioral scientists will be asked to consult on the probable behavioral and attitudinal effects of environmental rearrangements, precisely to the extent that human beings can control and change their environments. Essentially every institution in our society is attempting to set up conditions which it hopes will maximize certain types of behaviors and/or certain directions of development. Families, hospitals, prisons, business organizations, secondary schools, universities, communes, groups, and for that matter entire societies are all attempting to set up environmental conditions which will have certain effects. In this sense it may be cogently argued that the most important task for the behavioral and social sciences should be concerned with the systematic description and classification of environments and their differential costs and benefits to adaptation.

These issues are also closely related to the more traditional concerns of clinical psychology. Rates of dysfunctional behavior (e.g., accidents, drug abuse, symptom expression, sickness) vary considerably in different social and physical environments. Environmental variables are closely related to health and illness (for example the extent of environmental change is related to both sickness and accidents) and indices differentiating among social environments have been related to specific physiological reactions (e.g., Leiderman and Shapiro, 1964).

Environmental and setting variables must be considered in the determination of clinically relevant behaviors. Aggression and violence may be used as one example. If a large proportion of the variance in normally occuring aggressive behavior is related to environmental and setting effects, as it assuredly is, then the systematic analysis and conceptualization of these effects is particularly important. There is already evidence in the literature which indicates that each of the levels of environmental classification discussed above may have some determining effect on the rate and type of aggressive behavior. Weather, physical design, behavior settings, organizational structure, peer characteristics, perceived climate and expected rewards all have interrelated effects both on whether or not aggressive behavior occurs and on its specific mode of expression. To the extent that this is true about aggressive and other types of behavior it is simply not possible to understand that behavior without a system of environmental classification.

These issues are also relevant to the choice of environmental placement (e.g., should a child go to this foster home or that one?) and to the development of an adequate information source on environments. We need much more adequate sources of information about available types of environments. For example, it is well known that whereas college catalogues provide a certain amount of information about the formal organizational structure and educational opportunities of universities, they provide very little information about variables that importantly affect student development (e.g., different types of residence hall groupings, amount of faculty-student contact that actually occurs, etc.). Finally we cannot begin to systematically answer questions about the effects of various kinds of programs in hospitals, universities, schools, etc. unless we can somehow systematically assess and compare these programs. An environmental description system is essential for this and the other tasks mentioned above.

Recommendation

Since this area is of central concern and relevance to the social and behavioral

sciences, and since there is no currently accepted environmental classification scheme, it is recommended that the American Psychological Association establish a working task force with the purpose of identifying one or more useful classification schema in this area. While psychologists might properly take the leadership role in this function the task force must of necessity include representatives from a variety of other related disciplines. One last point deserves emphasis here. A number of environmental psychology programs have sprung up in different universities over the past few years (Wohlwill, 1970). Whereas this is encouraging in that it tends to highlight and emphasize important areas of inquiry, it is also disconcerting both because of the limited definition of environmental psychology which is currently in use and because separate programs to some extent become part of a communication-inhibiting social structure. Environmental psychology certainly cannot be limited to geographical and architectural variables as seems to be currently the case. We have learned from previous experience that behavior cannot be studied apart from the environment in which it occurs. Similarly it is unlikely that either physical or social environments can be fully understood independent of each other. A working APA Task Force designed to identify the problems and the potentially mutually beneficial collaborations with other disciplines may help direct fruitful efforts into the eventual development of a robust and socially relevant environmental psychology.

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